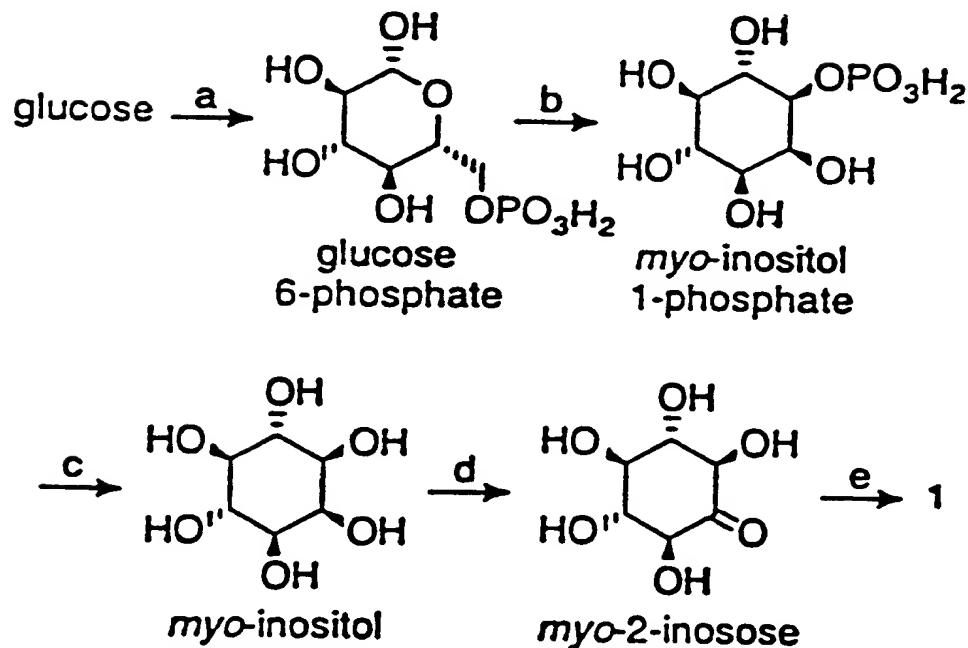


FIGURE 1



<sup>a</sup>Key: (a) phosphoenolpyruvate:carbohydrate phosphotransferase; (b) myo-inositol 1-phosphate synthase; (c) phosphatase activity; (d) dehydrogenase activity; (e) 0.5 M H<sub>2</sub>SO<sub>4</sub>, H<sub>2</sub>O, reflux.

FIGURE 2

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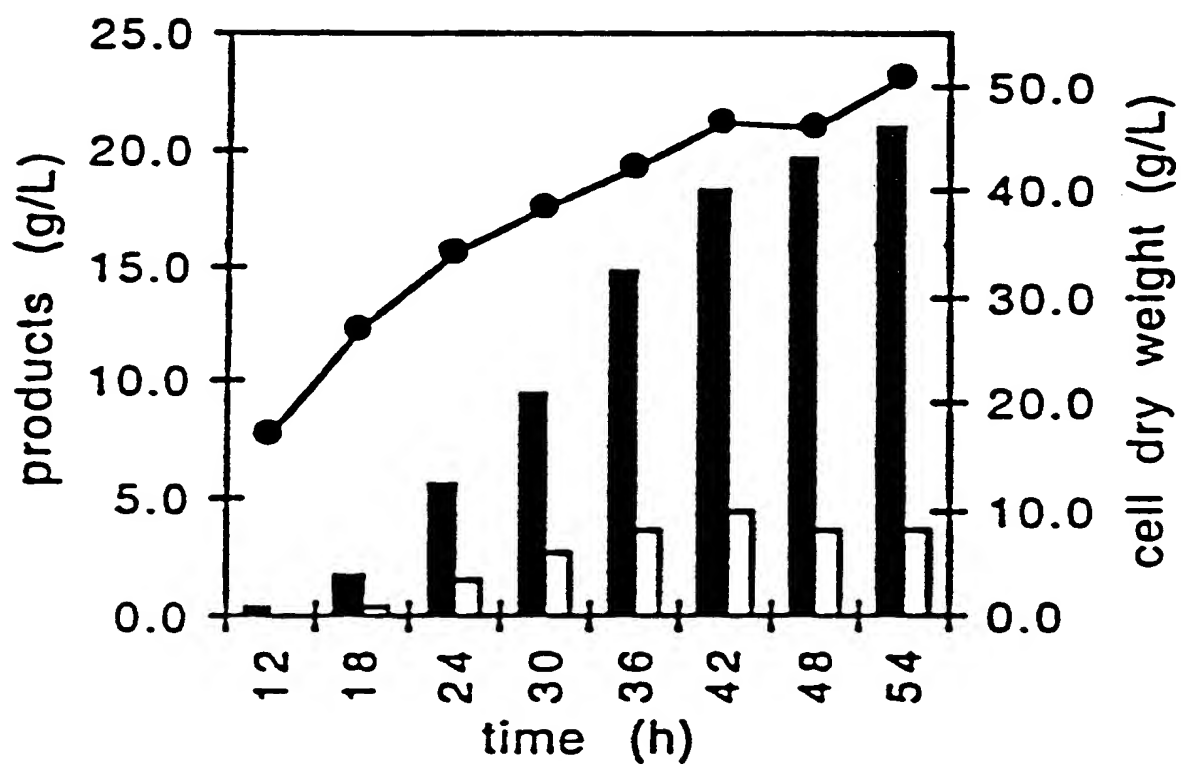
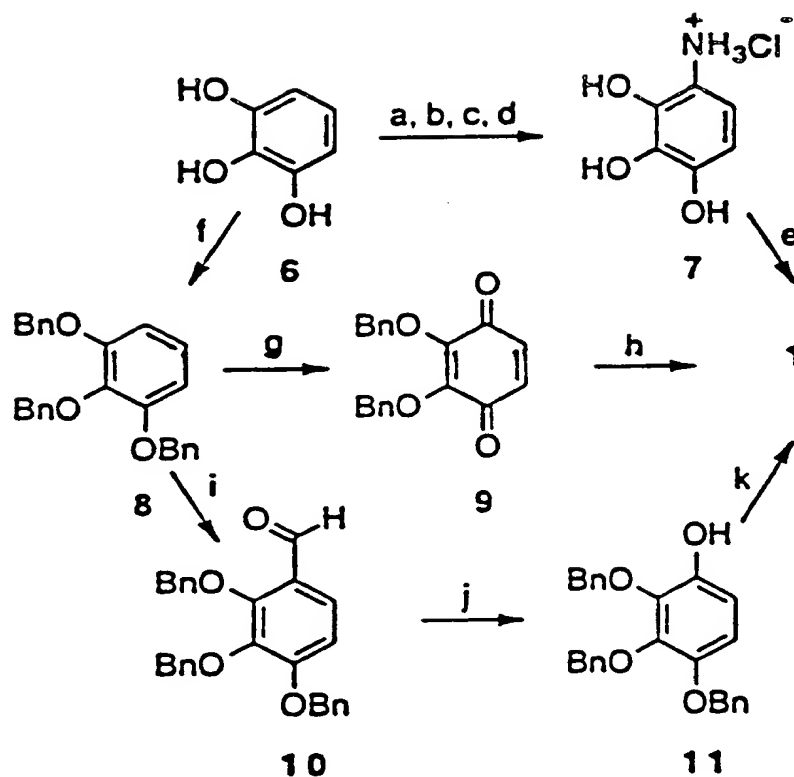
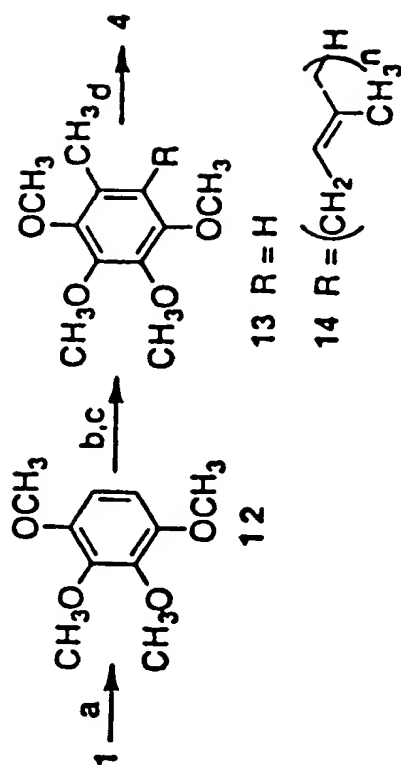


FIGURE 3



<sup>a</sup>Key: (a)  $\text{Cl}_2\text{C}(\text{O})$ , pyridine, xylene, reflux; (b)  $\text{H}_2\text{SO}_4$ ,  $\text{HNO}_3$ ; (c)  $\text{KOH}$  (aq.); (d)  $\text{Zn}$ ,  $\text{HCl}$ ; (e)  $\text{H}_2\text{O}$ , reflux; (f)  $\text{BnBr}$ ,  $\text{K}_2\text{CO}_3$ , acetone, reflux, 83 %; (g)  $\text{K}_3\text{Fe}(\text{CN})_6$ ,  $\text{H}_2\text{O}_2$ ,  $\text{AcOH}$ , 11 %; (h)  $\text{H}_2$ , 10 %  $\text{Pd/C}$ ,  $\text{EtOH}$ , 100 %; (i) *N*-methylformanilide,  $\text{POCl}_3$ , 60 °C, 93 %; (j)  $\text{HCO}_2\text{H}$ ,  $\text{H}_2\text{O}_2$ ,  $\text{CH}_2\text{Cl}_2$ , 0 °C to rt. 95 %; (k)  $\text{H}_2$ , 10 %  $\text{Pd/C}$ ,  $\text{EtOH}$ , 80%.

FIGURE 4



<sup>a</sup>Key: (a) (CH<sub>3</sub>)<sub>2</sub>SO<sub>4</sub>, NaOH, 69 %; (b) (i) *n*-BuLi, TMEDA, hexanes, THF, 0 °C; (ii) CH<sub>3</sub>I, 0 °C, 83%; (c) (i) *n*-BuLi, TMEDA, hexanes, 0 °C; (ii) CuCN, THF, Et<sub>2</sub>O, 0 °C; (iii) farnesyl bromide, -78 °C, 57 %; (d) CAN, pyridine-2,6-dicarboxylate, CH<sub>3</sub>CN/H<sub>2</sub>O, 0 °C, 46%.

FIGURE 5